



MI FluFocus

Influenza Surveillance and Avian Influenza Update

**Bureau of Epidemiology
Bureau of Laboratories**

Michigan Department
of Community Health



Jennifer M. Granholm, Governor
Janet Olszewski, Director

Editor: Susan Peters, DVM
Surveillance and Infectious Disease Epidemiology
PetersS1@Michigan.gov

January 7, 2010
Vol. 7; No. 1

New updates in this issue:

- **Michigan Surveillance:** Respiratory syndromic alerts and ILI data increase slightly; all other surveillance data continues to show low levels of influenza activity.
 - **National Surveillance:** Activity decreased slightly; 17 states report widespread or regional activity.
 - **International Surveillance:** Central and eastern Europe is experiencing active 2009 H1N1 transmission.
-

******2009 Influenza A (H1N1) virus Updates******

Please continue to reference the MDCH influenza website at www.michigan.gov/flu for additional 2009 H1N1 information. Local health departments can find guidance documents in the MI-HAN document library. In addition, additional laboratory-specific information is located at the Bureau of Laboratories H1N1 page at http://www.michigan.gov/mdch/0,1607,7-132-2945_5103-213906--,00.html.

International (WHO H1N1 2009 update 81 [edited], December 30): The most active areas of pandemic influenza transmission currently are in central and eastern Europe. Focal increases in rates of ILI/ARI during recent weeks were reported in at least three eastern European countries, Georgia, Montenegro, and Ukraine. A high intensity of respiratory diseases activity with concurrent circulation of pandemic influenza persists in parts of southern and eastern Europe, particularly in Greece, Poland, Bulgaria, Serbia, Ukraine, and the Urals Region of the Russian Federation. In Western Europe, influenza transmission remains active and widespread, but overall disease activity has peaked. At least 13 of 21 countries (testing more than 20 sentinel samples) reported that 30% or more of sentinel specimens were positive for influenza, down from a peak of over 70%. All were influenza viruses detected in Western Europe were pandemic H1N1 2009, however, very small numbers of seasonal influenza viruses, making up less than 1% of all influenza viruses detected, were reported in Russia. In addition, limited available data indicates that active, high intensity transmission is occurring in Northern African countries along the Mediterranean coast (Algeria, Tunisia, and Egypt).

In Central Asia, limited data suggest that influenza virus circulation remains active, but transmission may have recently peaked in some places. In West Asia, Israel, Iran, Iraq, Oman, and Afghanistan also appear to have passed their peak period of transmission within the past month, though both areas continue to have some active transmission and levels of respiratory disease activity have not yet returned to baseline levels.

In East Asia, influenza transmission remains active but appears to be declining overall. Influenza/ILI activity continued to decline in Japan, in northern and southern China, Chinese Taipei, and Hong Kong SAR (China). Slight increases in ILI were reported in Mongolia after weeks of declining activity following a large peak of activity over one month ago. In southern Asia, influenza activity continues to be intense, particularly in northern India, Nepal, and Sri Lanka. Seasonal influenza A (H3N2) viruses are still being detected in very small numbers in China making up about 2.5% of the influenza A viruses detected there.

In North America, influenza transmission remains widespread but has declined substantially in all countries. In the US, sentinel outpatient ILI activity has returned to the seasonal baseline, and indicators of severity, including hospitalizations, pediatric mortality, and P&I mortality have declined substantially since peaking during late October. Rates of hospitalization among cases aged 5-17 years and 18-49 year far exceeded rates observed during recent influenza seasons, while rates of hospitalizations among cases aged >65 years were far lower than those observed during recent influenza seasons.

In the tropical regions of Central and South America and the Caribbean, influenza transmission remains geographically widespread but overall disease activity has been declining or remains unchanged in most parts, except for focal increases in respiratory disease activity in a few countries.

In the temperate regions of the southern hemisphere, sporadic cases of pandemic influenza continued to be reported without evidence of sustained community transmission.

The countries and overseas territories/communities that have newly reported their first pandemic (H1N1) 2009 confirmed cases since the last web update (No. 80): None.

The countries and overseas territories/communities that have newly reported their first deaths among pandemic (H1N1) 2009 confirmed cases since the last web update (No. 80): Nepal and Armenia.

Region	Deaths*
WHO Regional Office for Africa (AFRO)	130
WHO Regional Office for the Americas (AMRO)	At least 6670
WHO Regional Office for the Eastern Mediterranean (EMRO)	693
WHO Regional Office for Europe (EURO)	At least 2422
WHO Regional Office for South-East Asia (SEARO)	1056
WHO Regional Office for the Western Pacific (WPRO)	1249
Total*	At least 12220

* The reported number of fatal cases is an under representation of the actual numbers as many deaths are never tested or recognized as influenza related.

Influenza Surveillance Reports

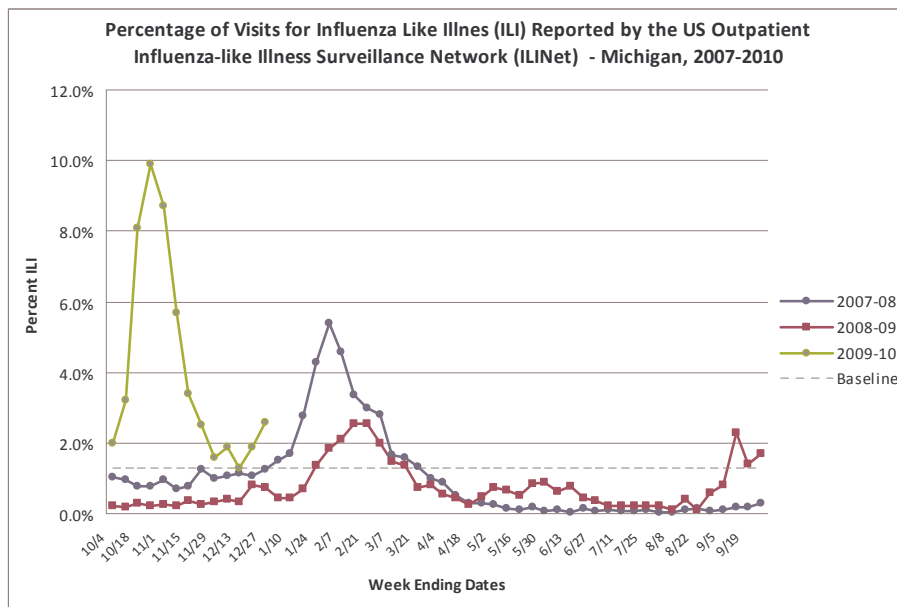
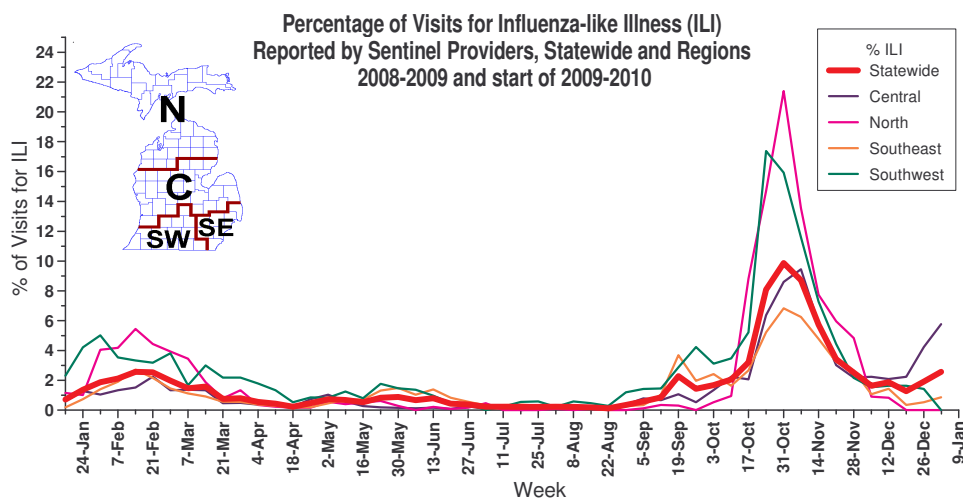
Michigan Disease Surveillance System: The week ending January 2 saw 2009 novel H1N1 influenza, aggregate influenza, and individual influenza reported cases similar to the previous week's levels and slightly decreased from levels seen two weeks earlier. A portion of the decreased activity may be due to decreased reporting during the holidays. Cases reported this week are similar to what was seen during the same time period last year.

During the two weeks of December 20, 2009 – January 2, 2010, 3587 cases of flu-like illness and confirmed and probable cases of seasonal and novel influenza were reported in Michigan. 37 hospitalizations and 1 death associated with influenza were reported during this time. This report is updated every Tuesday by 5:00 pm and can be accessed at "Current H1N1 Activity" on this website: <http://www.michigan.gov/h1n1flu>.

Emergency Department Surveillance: Emergency department visits from both constitutional and respiratory complaints were slightly higher than levels seen two weeks ago. Both constitutional and respiratory complaints are slightly higher than what was seen at this time last year. In the past two weeks, there was one constitutional alert in the SE(1) Influenza Surveillance Region, fifteen respiratory alerts in the C(6), N(3), SW(4), and SE(1) Influenza Surveillance Regions, and 1 state-wide alert.

Over-the-Counter Product Surveillance: OTC product sales held steady near levels seen during the previous three weeks. Cough and cold sales experienced a minor decrease over the Christmas holiday only, followed by a return to previous levels. In contrast, pediatric electrolyte sales had a small spike around the Christmas holiday with a subsequent return to previous levels. Each product's sales are comparable to levels seen one year ago; with the exception of a slight increase in thermometer sales.

Sentinel Provider Surveillance (as of January 7, 2009): During the week ending January 2, 2010, the proportion of visits due to influenza-like illness (ILI) increased to 2.6% overall; 138 patient visits due to ILI were reported out of 5,391 office visits. Twenty-five sentinel sites provided data for this report. Activity increased in two surveillance regions: Central (5.8%) and Southeast (0.9%); stayed the same in the North (0.0%) region and; decreased in the Southwest (1.1%). Please note that these rates may change as additional reports are received.



As part of pandemic influenza surveillance, CDC and MDCH highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Cristi Carlton at 517-335-9104 or CarltonC2@michigan.gov for more information.

Laboratory Surveillance (as of January 2): During December 27-January 2, MDCH Bureau of Laboratories identified 1 novel H1N1 influenza A isolate. For the 2009-2010 season (starting on October 4, 2009), MDCH BOL has identified 597 influenza isolates:

- 2009 Influenza A (H1N1): 596
- Influenza B: 1

12 sentinel labs reported for the week ending January 2, 2010. 1 lab reported slightly elevated influenza A positives (SE), 2 labs reported sporadic numbers of flu A positives (SE, C), and 9 labs reported no flu A positives (SE, SW, C, N). 1 lab reported sporadic influenza B positives (SE).

Michigan Influenza Antigenic Characterization (as of January 7): One novel H1N1 influenza A virus from Michigan has undergone further characterization at the CDC. This virus was characterized as A/California/07/2009 (H1N1)-like, which is the recommended strain for the H1 component of the 2010 Southern Hemisphere vaccine.

Michigan Influenza Antiviral Resistance Data (as of January 7): Results are currently not available for antiviral resistance at CDC for the 2009-2010 season.

Antiviral resistance testing takes months to complete and cannot be used to guide individual patient treatment. However, CDC has made recommendations regarding the use of antivirals for treatment and prophylaxis of influenza. The guidance is available at <http://www.cdc.gov/H1N1flu/recommendations.htm>.

Influenza-Associated Pediatric Mortality (as of January 7): Five 2009 H1N1 influenza-associated pediatric mortalities (SE(3), SW, N) have been reported to MDCH for the 2009-2010 influenza season.

***CDC has asked states for information on any pediatric death associated with influenza. This includes not only any pediatric death (<18 years) resulting from a compatible illness with laboratory confirmation of influenza, but also any unexplained pediatric death with evidence of an infectious process. Please immediately call MDCH to ensure proper specimens are obtained. View the complete MDCH protocol online at http://www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf.

Influenza Congregate Settings Outbreaks (as of January 7): Seven congregate setting outbreaks with confirmatory novel influenza A H1N1 testing (2SE, 3 SW, 1C, 1N), and two outbreaks associated with positive influenza A tests (1C, 1N) have been reported to MDCH for the 2009-2010 influenza season. These are 8 school facilities and 1 long term care facility.

As of January 7, 2010, 567 influenza-related school and/or district closures in Michigan (Public Health Preparedness Region 1 - 55, Region 2N - 4, Region 2S - 8, Region 3 - 54, Region 5 - 153, Region 6 - 100, Region 7 - 109, Region 8 - 84) have been reported.

National (CDC [edited], January 4): During week 51 (December 20-26, 2009), influenza activity decreased slightly in the U.S. 154 (3.9%) specimens tested by U.S. World Health Organization and National Respiratory and Enteric Virus Surveillance System collaborating laboratories and reported to CDC/Influenza Division were positive for influenza. All subtyped influenza A viruses reported to CDC were 2009 influenza A (H1N1) viruses. The proportion of deaths attributed to pneumonia and influenza (P&I) was above the epidemic threshold. Four influenza-associated pediatric deaths were reported. Two of these deaths were associated with 2009 influenza A (H1N1) virus infection and two were associated with an influenza A virus for which the subtype was undetermined. The proportion of outpatient visits for influenza-like illness (ILI) was 3.2% which is above the national baseline of 2.3%. Two of the 10 regions (1 and 10) reported ILI below region-specific baseline levels. Four states reported geographically widespread influenza activity, 13 states reported regional influenza activity, the District of Columbia, Puerto Rico, and 19 states reported local influenza activity, Guam and 13 states reported sporadic influenza activity, and one state reported no influenza activity, the U.S. Virgin Islands did not report.

Antiviral Resistance Testing Results on Samples Collected Since September 1, 2009

	Samples tested (n)	Resistant Viruses, Number (%)	Samples tested (n)	Resistant Viruses, Number (%)	Samples tested (n)	Resistant Viruses, Number (%)
		Oseltamivir		Zanamivir		Adamantanes
Seasonal Influenza A (H1N1)	1	1 (100.0)	0	0 (0)	2	0 (0)
Influenza A (H3N2)	8	0 (0)	0	0 (0)	6	5 (83.3)
Influenza B	1	0 (0)	0	0 (0)	N/A*	N/A*
2009 Influenza A (H1N1)	2445	38†‡ (1.6)	666	0 (0)	685	684 (99.9)

*The adamantanes (amantadine and rimantadine) are not effective against influenza B viruses.

†Two screening tools were used to determine oseltamivir resistance: sequence analysis of viral genes or a neuraminidase inhibition assay.

‡Additional laboratories perform antiviral resistance testing and report their results to CDC. Two additional oseltamivir resistant 2009 influenza A (H1N1) virus has been identified by these laboratories since September 1, 2009, bringing the total number to 40.

The majority of 2009 influenza A (H1N1) viruses are susceptible to the neuraminidase inhibitor antiviral medication oseltamivir; however, rare sporadic cases of oseltamivir resistant 2009 influenza A (H1N1) viruses have been detected worldwide. A total of 50 cases of oseltamivir resistant 2009 influenza A (H1N1) viruses have been identified in the United States since April 2009, including four newly identified cases since last week. In specimens collected since September 1, 2009, 40 cases have been identified in the United States. The proportion of oseltamivir-resistant 2009 H1N1 viruses does not represent the prevalence of oseltamivir-resistant 2009 H1N1 in the U.S. Most cases were tested because drug resistance was suspected. All tested viruses retain their sensitivity to the neuraminidase inhibitor zanamivir. Of the 50 total cases identified since April 2009, 34 patients had documented exposure to oseltamivir through either treatment or chemoprophylaxis, 14 patients are under investigation to determine exposure to oseltamivir, and two patients had no documented oseltamivir exposure. Occasional development of oseltamivir resistance during treatment or prophylaxis is not unexpected. Enhanced surveillance, an increased availability of testing performed at CDC, and an increasing number of public health and other clinical laboratories performing antiviral resistance testing increase the number of cases of oseltamivir resistant 2009 influenza A (H1N1) viruses detected. All cases are investigated to assess the spread of resistant strains in the community.

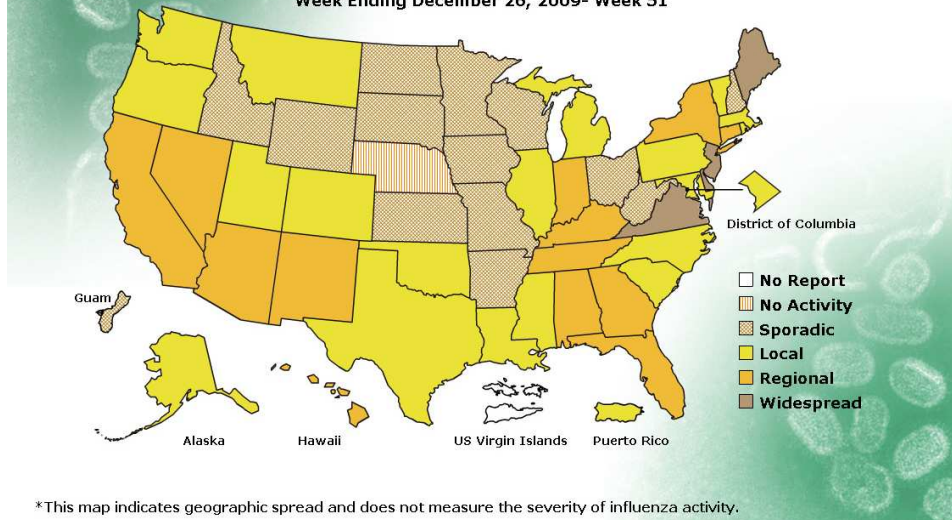
To access the entire CDC weekly surveillance report, visit <http://www.cdc.gov/flu/weekly/fluactivity.htm>

FLUVIEW



A Weekly Influenza Surveillance Report Prepared by the Influenza Division
Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists*

Week Ending December 26, 2009- Week 51



*This map indicates geographic spread and does not measure the severity of influenza activity.

From <http://www.cdc.gov/h1n1flu/updates/us/#totalcases>:

U.S. Influenza and Pneumonia-Associated Hospitalizations and Deaths from Aug 30 – Dec 26, 2009

Cases Defined by	Hospitalizations	Deaths
Influenza Laboratory-Tests**	37,090	1,697

**States report weekly to CDC either 1) laboratory-confirmed influenza hospitalizations and deaths or 2) pneumonia and influenza syndrome-based cases of hospitalization and death resulting from all types or subtypes of influenza. Although only the laboratory confirmed cases are included in this report, CDC continues to analyze data both from laboratory confirmed and syndromic hospitalizations and deaths.

International (WHO [edited], January 4): [During weeks 48-49], the level of seasonal influenza activity in most countries was low with only sporadic detections. China reported outbreaks of H3 as well as sporadic H1 and B activity. Sporadic seasonal influenza activity was observed in Afghanistan (H1,B), Australia (H3), Canada (H3), China Hong Kong Special Administrative Region (H3,B), Japan (B), Kenya (H3,B), Poland (B), the Russian Federation (H1,H3,B), Uganda (B), and United States (H1,H3,B). Guatemala, France - New Caledonia, and Uzbekistan reported no influenza activity.

MDCH reported **LOCAL INFLUENZA ACTIVITY** to the CDC for the weeks ending December 26, 2009 and January 2, 2010.

For those interested in additional influenza vaccination and education information, the MDCH *FluBytes* is available at http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_22779_40563-125027--,00.html.

Avian and Novel Influenza Activity

WHO Pandemic Phase: Phase 6 – characterized by increased and sustained transmission in the general population. Human to human transmission of an animal or human-animal influenza reassortant virus has caused sustained community level outbreaks in at least two WHO regions.

National, Swine (Pork News [edited], December 23): A federal laboratory has confirmed the presence of the novel H1N1 2009 influenza virus in samples taken from pigs at 2 North Carolina farms. The animals have been under the care of a private veterinarian and have recovered from the illness.

"The herd veterinarian noticed signs of mild illness in the pigs and conducted tests to determine the type," state veterinarian David Marshall said. "Confirmatory tests by the US Department of Agriculture's National Veterinary Services Laboratory in Ames, Iowa, indicated the virus was H1N1. "Pigs are subject to flu viruses just like humans, so it's not unexpected to find it in a herd," Marshall said. "These cases show that our surveillance system is working."

People cannot contract H1N1 from handling or consuming pork or pork products, according to the World Health Organization and the Centers for Disease Control and Prevention. The US meat inspection system provides an additional safeguard by inspecting all animals presented for slaughter.

Tom Ray, DVM, director of livestock health at the NC Department of Agriculture and Consumer Services, said it appears the pigs at both farms caught the virus from humans. The herd owners indicated that workers who had contact with the animals had exhibited flu-like illness in the days preceding the animals' illness, Ray said.

North Carolina joins Minnesota, Indiana, and Illinois with confirmed cases of novel H1N1 flu in pigs. The virus also has been identified in cats in Iowa, Oregon, and Pennsylvania; ferrets in Oregon, turkeys in Virginia, a dog in New York, and a cheetah in California. In all these cases, it appears the animals caught the virus from humans.

International, Human (Imperial College of London press release [edited], December 30): Young people aged under 18 years are more likely than adults to catch swine flu from an infected person in their household, according to a new study published today in *The New England Journal of Medicine*. However, the research also shows that young people are no more likely than adults to infect others with the pandemic H1N1 virus.

In the study, by scientists at the MRC Centre for Outbreak Analysis & Modelling at Imperial College London and the Centers for Disease Control and Prevention (CDC) in the USA, the researchers analysed data collected by CDC from 216 people believed to be infected with the swine flu virus, or 2009 H1N1, and 600 people living in their households, to determine how age, symptoms, number of people in a household and length of time after symptoms are first reported affect how easily people transmit the virus to one another.

The study suggests that it may be unnecessary for patients to stay at home for longer than four days after they start to have symptoms. It reveals that the average length of time between one person displaying the first symptoms of flu and someone else in their household having symptoms is 2.6 days.

At the start of the current pandemic, CDC advised patients to stay at home for seven days, but it has since revised these guidelines to 24 hours after the end of fever (without the use of fever-reducing medications), which is supported by the new research findings.

Dr Simon Cauchemez, lead author of the paper from the MRC Centre for Outbreak Analysis and Modelling at Imperial College London, said: "At the start of the current flu pandemic we didn't know how different factors affected the risk of transmitting the virus to other people. If we are advising people to stay at home if they develop flu-like symptoms, we need to understand the implications this might have for other household members. Our new research helps us to do this – for example it shows that children are more at risk of being infected than adults.

"Our study also suggests that people infected with swine flu might not need to stay at home as long as we previously thought – if they are only likely to transmit the virus to other people for the first few days of their illness, keeping people off work for a week may be unnecessary and could be detrimental to the economy. In view of this, the new CDC guidelines are very sensible," added Dr Cauchemez.

The data reveal that household contacts aged 18 or under were twice as likely to be infected by a patient in their household, compared to adults aged 19 to 50. Household members aged over 50 were the least susceptible to infection. However, today's study shows that the age of a patient did not appear to affect their risk of passing on infection, despite suspicions that children may be more infectious than adults.

Today's research also suggests that most transmissions occur shortly before or after the first patient shows symptoms of infection. It shows that the risk of someone catching the virus is higher in households of only two people compared to households of six people: 28% of household contacts developed acute respiratory illness in households of two people, compared to 9% in households of six people. The authors of the study believe this is because in larger households there is less one-on-one contact between family members.

The results show that one in eight of the 600 people living with swine flu patients developed symptoms of respiratory illness. This figure is in the lower range of values of what was observed in past flu pandemics.

International, Human (Columbia University press release [edited], December 30): The presence of the *Streptococcus pneumoniae* in samples that can be easily obtained in clinics and emergency rooms may predict risk of severe disease in H1N1 pandemic influenza. Reports that H1N1 pandemic influenza in Argentina was associated with higher morbidity and mortality than in other countries led investigators in the Center for Infection and Immunity (CII) at the Mailman School of Public Health of Columbia University, their colleagues at Argentina's National Institute of Infectious Diseases (INEI), and Roche 454 Life Sciences to look for viral mutations indicative of increased virulence and for co-infections that could contribute to disease.

Complete genome sequencing of nasopharyngeal samples representing severe or mild disease revealed no evidence of evolution toward a more virulent phenotype or development of antiviral resistance. However, MassTag PCR, a method for sensitive, simultaneous surveillance and differential diagnosis of infectious diseases, found a strong correlation between the presence of *Streptococcus pneumoniae* and increased risk for severe disease. The findings, which suggest a new strategy for identifying and treating these patients, are currently online in the publication *Plos One*.

The scientists examined nasopharyngeal samples representing 199 cases of H1N1 pandemic (H1N1pdm) influenza virus infections from Argentina. The sample set included 39 cases classified as severe and 160 cases categorized as mild. "We used a combination of 454 pyrosequencing and classical Sanger sequencing methods to test for viral evolution toward increased virulence. Comparison of viral sequences from Argentina with those obtained from other parts of the world provided no clues to the increase in severity of disease," said Gustavo Palacios, PhD, assistant professor of epidemiology at CII, and a lead and corresponding author. "However, MassTag PCR allowed us to find a new risk factor, independent of obesity, asthma, diabetes or chronic illness. *S. pneumoniae* was present in the majority of severe cases."

Specimens were tested for the presence of 33 viral and bacterial respiratory pathogens. "The presence of *Streptococcus pneumoniae* in individuals between the age of 6 and 55, those most affected by the current pandemic, was associated with a 125-fold increased risk of severe disease," said Mady Hornig, MD, associate professor of epidemiology and a co-first author of the paper. "Whereas the association of *S. pneumoniae* with morbidity and mortality has been established in current and previous influenza pandemics, this study is the first to demonstrate that the diagnosis of *S. pneumoniae*, when it is still actionable, might have an impact on clinical management."

"Three practical implications emerge from our study," said CII Director W. Ian Lipkin, MD, John Snow Professor of Epidemiology, and professor of Neurology and Pathology at Columbia University. "First, *S. pneumoniae* is important in the pathogenesis and prognosis of H1N1pdm-associated disease. Whether this effect is associated with all *S. pneumoniae* or only with specific serotypes remains to be determined. Second, easily accessible samples such as nasopharyngeal swab samples may be used as an index to risk of severe disease. Third, multiplex diagnostic methods like MassTag PCR can enable rapid detection of a broad spectrum of viral and bacterial agents and inform clinical care."

International, Poultry (OIE [edited], December 28): LPAI virus H5N2; Country: Korea (Rep. of)
Date of first confirmation of the event: 25/12/2009; Date of Start of Event: 07/12/2009
Date of report: 28/12/2009; Date Submitted To OIE: 28/12/2009
Province: CH'UNGCH'ONG-NAMDO; District: Seo-san city; Location: Gobuk-myeon
Species: Ducks; Susceptible: 26800; Cases: 40; Deaths: 0; Destroyed: 26800; Slaughtered: 0

Epidemiological comments: As part of the yearly surveillance program, a member of the Livestock Health Control Association collected samples from a duck raising farm in Seo-san city and requested the test for avian influenza to the Chungchong-namdo Veterinary Research Institute (VRI) on 7 December 2009. After it was positive by haemagglutination test, the sample was sent to the National Veterinary Research and Quarantine Service (NVRQS) on 22 December. In the course of the confirmatory test, the isolated virus was confirmed as H5 avian influenza virus on 24 December and finally confirmed as low pathogenic avian influenza virus (H5N2) by gene sequencing. 26,800 ducks raised in the affected farm were culled and 176,000 eggs kept in the farm were destroyed. The whole procedure for burial and burning was completed on 26 December. Traceback investigation of epidemiologically related farms and enhanced surveillance on neighbouring farms are underway.

Source of the outbreak(s) or origin of infection: Unknown or inconclusive
Control Measures Applied: Stamping out, Quarantine, Screening, Disinfection of infected premises
To be applied: Zoning; Animals treated: No

International, Poultry (OIE [edited], December 30): Highly pathogenic avian influenza, Cambodia
Start date 16: Dec 2009; Date of 1st confirmation of the event: 18 Dec 2009
Report date: 28 Dec 2009; Date submitted to OIE: 28 Dec 2009
Causal agent: Highly pathogenic avian influenza virus Serotype H5N1
Outbreak location: La-ak, Kraek, Ponhea Kraek, KG. CHAM

Species: Birds; Susceptible: 1216; Cases: 143; Deaths: 143; Destroyed: 875; Slaughtered: 0
Affected Population: Backyard poultry including chickens and ducks (1012 chickens and 204 ducks). 875 birds corresponding to 751 chickens and 124 ducks were culled.
Apparent morbidity rate: 11.76 percent; Apparent mortality rate: 11.76 percent
Apparent case fatality rate: 100.00 percent; Proportion susceptible animals lost*: 83.72 percent
*Removed from the susceptible population through death, destruction and/or slaughter

Source of the outbreak(s) or origin of infection: Unknown or inconclusive.
Epidemiological comments: The investigation team inspected the disease location from 16-19 Dec 2009. The source of the outbreak is under investigation. Culling of backyard poultry was conducted after the laboratory confirmation and was just completed on 27 Dec 2009.
Control measures applied: Movement control inside the country; Disinfection of infected premises/establishment(s); Modified stamping out; No vaccination; No treatment of affected animals.
Measures to be applied: No other measures

International, Poultry (Kapas Zone Indonesia [edited], January 4): Thousands of chickens confirmed to have died of bird flu H5N1 virus in Kabupaten (regency) Kapuas [Indonesia]. Confirmation tests on dead bird specimens, such as organ, serum, and swab, were done by the Veterinary Investigation and Diagnostic Center (BPPV) Regional V, Banjarbaru, South Kalimantan.

So far, bird flu H5N1 virus has only attacked chickens in South Kalimantan. No bird to human virus transmission is reported.

International, Wild Birds (OIE [edited], January 5): Highly pathogenic avian influenza serotype H5N1, Hong Kong (PR China)
Start date: 29 Dec 2009; Date of 1st confirmation of the event: 31 Dec 2009
Report date: 5 Jan 2010; Date submitted to OIE: 5 Jan 2010
Outbreak 1: Hok Tau, Hong Kong
Species: wild species; Susceptible: --; Cases: 1; Deaths: 1; Destroyed: 0; Slaughtered: 0
Affected population: an Oriental Magpie Robin (*Copsychus saularis*) carcass was found in a country park located at Hok Tau. Oriental Magpie Robin is a common and widespread resident in Hong Kong.

Source of the outbreak(s) or origin of infection: unknown or inconclusive.
Epidemiological comments: an intensive surveillance system is in place on all poultry farms, poultry markets, pet bird shops, park birds, and wild birds in Hong Kong. This H5N1 infected wild bird was detected in our ongoing surveillance program on wild birds. No spread of the disease was evident. As this was a dead wild bird, the date of end of the event is the same as the finding of the bird (29 Dec 2009).
Control Measures applied: screening; disinfection of infected premises/establishment(s); no vaccination; no treatment of affected animals. Measures to be applied: no other measures

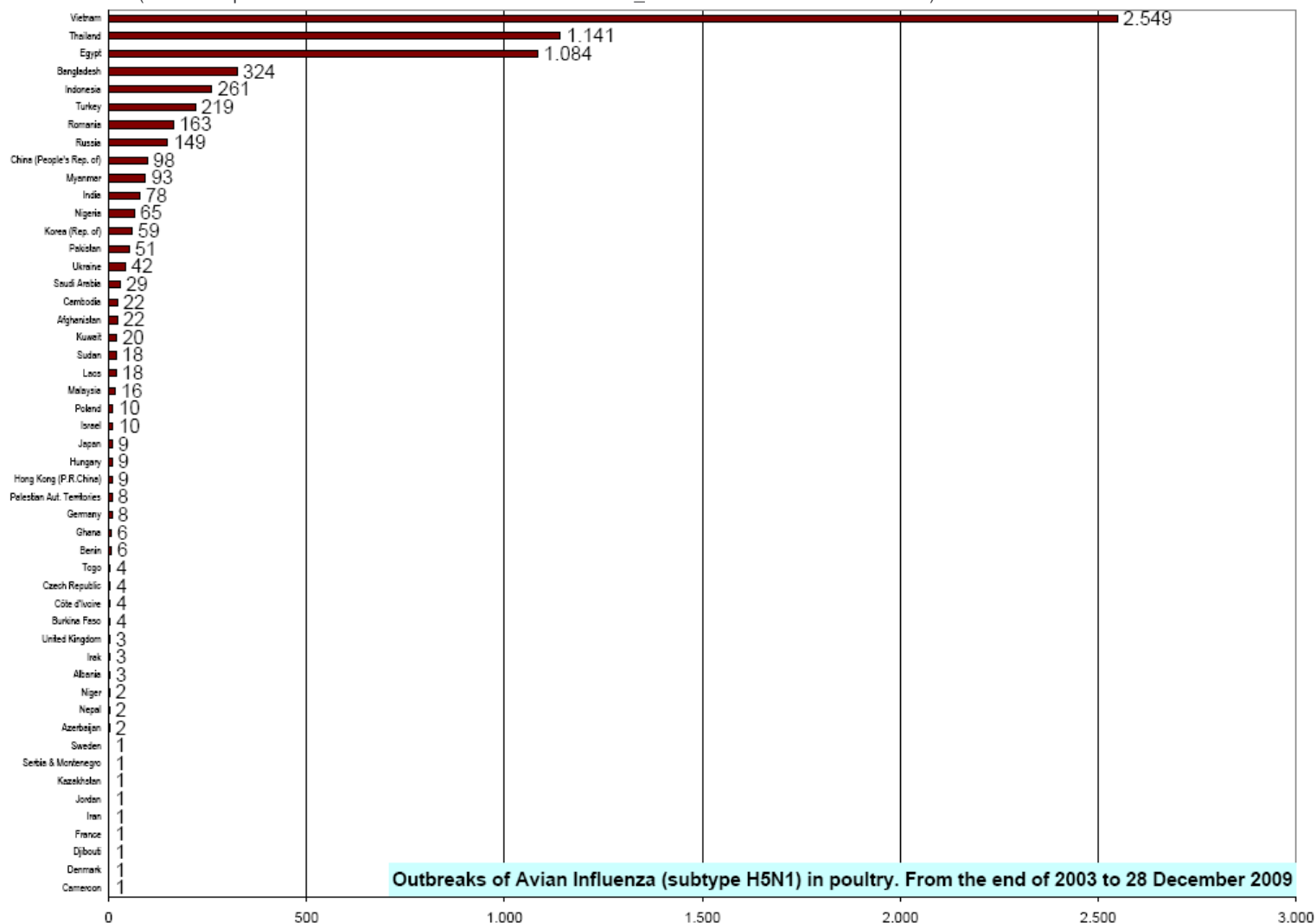
Michigan Wild Bird Surveillance (USDA, as of January 7): For the 2009 testing season (April 1, 2009-March 31, 2010), HPAI subtype H5N1 has not been recovered from any of the 111 Michigan samples tested to date, including 58 live wild birds, 39 hunter-killed birds and 14 morbidity/mortality specimens. H5N1 HPAI has not been recovered from 15,747 samples tested nationwide. For more information, visit the National HPAI Early Detection Data System at <http://wildlifedisease.nbii.gov/ai/>.

To learn about avian influenza surveillance in Michigan wild birds or to report dead waterfowl, go to Michigan's Emerging Disease website at <http://www.michigan.gov/emergingdiseases>.

Please contact Susan Peters at PetersS1@Michigan.gov with any questions regarding this newsletter or to be added to the weekly electronic mailing list.

Contributors

MDCH Bureau of Epidemiology - Sally Bidol, MPH; Cristi Carlton, MPH; Jamey Hardesty, MPH
MDCH Bureau of Laboratories – Anthony Muyombwe, PhD; Victoria Vavricka, MS

Table 1. H5N1 Influenza in Poultry (Outbreaks up to December 28, 2009)(Source: http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 12/29/09)

Outbreaks of Avian Influenza (subtype H5N1) in poultry. From the end of 2003 to 28 December 2009

Table 2. H5N1 Influenza in Humans (Cases up to December 21, 2009)

(http://www.who.int/csr/disease/avian_influenza/country/cases_table_2009_12_21/en/index.html Downloaded 12/22/2009)

Cumulative number of lab-confirmed human cases reported to WHO. Total number of cases includes deaths.

Country	2003		2004		2005		2006		2007		2008		2009		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	0	0	0	0	0	0	8	5	0	0	0	0	0	0	8	5
Bangladesh	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Cambodia	0	0	0	0	4	4	2	2	1	1	1	0	1	0	9	7
China	1	1	0	0	8	5	13	8	5	3	4	4	7	4	38	25
Djibouti	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	25	9	8	4	39	4	90	27
Indonesia	0	0	0	0	20	13	55	45	42	37	24	20	0	0	141	115
Iraq	0	0	0	0	0	0	3	2	0	0	0	0	0	0	3	2
Lao People's Democratic Republic	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2	2
Myanmar	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1
Pakistan	0	0	0	0	0	0	0	0	3	1	0	0	0	0	3	1
Thailand	0	0	17	12	5	2	3	3	0	0	0	0	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	0	0	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	8	5	6	5	5	5	112	57
Total	4	4	46	32	98	43	115	79	88	59	44	33	52	13	447	263